**UC Davis 2007 Macroinvertebrate Sampling Data**

**Lower Lassen Creek 7/10/07**

| Order | Coleoptera | | | | | |
|---|---|---|---|---|---|---|
| Family | Psephenidae | Dyticidae | Elmidae | Hydrophilidae | Hydrophilidae | Dryopidae |
| Genus | Eubrianax | Neobidessus | Heterlimnius | Laccobius | Hydrobius | Helichus |
| Number | 5 | 1 | 21 | 3 | 1 | 1 |
| Tolerance Value | 2 | 5 | 4 | 5 | 5 | 5 |
| Functional Feeding Group | sc | p | cg | mh | n/a | sh |
| TV*# | 10 | 5 | 84 | 15 | 5 | 5 |

| Order | Trichoptera | | | | | | |
|---|---|---|---|---|---|---|---|
| Family | Brachycentridae | Hydropsychidae | Hydropsychidae | Polycentropodidae | Helicopsychidae | Glossosomatidae | Limnephilidae |
| Genus | Amiocentrus | Leptonema | Hydropsyche | Cyrnellus | Helicopsyche | Anagapetus | Pedomoecus |
| Number | 2 | 15 | 35 | 5 | 1 | 1 | 1 |
| Tolerance Value | 3 | 4 | 4 | 6 | 3 | 0 | 2 |
| Functional Feeding Group | cg/sc | cf | cf | p | sc | sc | sh |
| TV*# | 6 | 60 | 140 | 30 | 3 | 0 | 2 |

| Order | Plecoptera | | | | |
|---|---|---|---|---|---|
| Family | Perlodidae | Perlidae | Perlidae | Perlidae | Nemouridae |
| Genus | Isoperla | Hesperoperla | Calineuria | Unknown (Keys to Calineuria) | Malenka |
| Number | 3 | 1 | 8 | 2 | 1 |
| Tolerance Value | 2 | 2 | 2 | 2 | 2 |
| Functional Feeding Group | p | p | p | p | sh |
| TV*# | 6 | 2 | 16 | 4 | 2 |

| Order | Ephemeroptera | | | | | | |
|---|---|---|---|---|---|---|---|
| Family | Baetidae | Heptageniidae | Heptageniidae | Heptageniidae | Tricorithydae | Ephemerellidae | Leptophlebiidae |
| Genus | Baetis | Cinygma | Heptagenia | Acanthamola | Tricorythodes | Seratella | Paraleptophlebia |
| Number | 32 | 2 | 4 | 6 | 38 | 12 | 1 |
| Tolerance Value | 5 | 2 | 4 | 4 | 4 | 2 | 4 |
| Functional Feeding Group | cg/sc | sc/sh | sc | n/a | cg | cg/sc | cg |
| TV*# | 160 | 4 | 16 | 24 | 152 | 24 | 4 |

| Order | Diptera | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Family | Tipulidae | Tipulidae | Tipulidae | Tipulidae | Ceratopogonidae | Tabanidae | Chironomidae | Simuliidae |
| Genus | Pilaria | Dicranota | Megistocera | Pedicia | n/a | n/a | n/a | n/a |
| Number | 1 | 4 | 1 | 3 | 4 | 1 | 100 | 6 |
| Tolerance Value | 3 | 3 | 3 | 3 | 6 | 8 | 6 | 6 |
| Functional Feeding Group | n/a | p | n/a | n/a | p | p | cg | cf |
| TV*# | 3 | 12 | 3 | 9 | 24 | 8 | 600 | 36 |

**UC Davis 2007 Macroinvertebrate Sampling Data, continued...**

## Lower Lassen Creek 7/10/07

| | |
|---|---|
| Order | Odonata |
| Family | Coenagrionidae |
| Genus | Argia |
| Number | 1 |
| Tolerance Value | 7 |
| Functional Feeding Group | p |
| TV*# | 7 |

| TOTALS | | | | | | |
|---|---|---|---|---|---|---|
| Genus | Total # | # of Families | # of Genera | EPT Index | % Plecoptera | Hilsenhoff Index |
| Number | 323 | 25 | 34 | 52.63% | 4.64% | 4.585 |
| Tolerance Value | | | | | | |
| Functional Feeding Group | | | | | | |
| TV*# | 1481 | | | | | |
| | 4.585139319 | | | | | |

**Preliminary Macroinvertebrate Analysis**
**for Lower Lassen Creek (LC 1)**

**By Sabra Purdy**

**(Samples collected during the summer of 2007)**

Please find the above spreadsheet with the data and some preliminary metrics run on it. The basic idea is that we've got more than 50% of the sample as EPT species, that is, Ephemeroptera (Mayflies), Plecoptera (Stoneflies), and Trichoptera (caddisflies). These are widely accepted as being the most sensitive species to pollution, sedimentation, and temperature.

In particular, there is good stonefly diversity (five genera in two families). They are the most sensitive group and really need excellent water quality. One genus I could not key out (definitely a Perlidae, but keyed to Calineuria which it looked nothing like and it is thought there is only one species in the state), which could mean one of two things. 1) It was simply a weird morph, early instar thing, or 2) we've got something unusual that hasn't been described. Lassen Creek would be a place where the 2nd option wouldn't surprise me.

We had a lot of chironomid midges in the sample (100), but I don't look on that as being out of the ordinary, they are very common in meadow streams and are sort of the basis of the invertebrate food chain (other bugs and fish love to eat them). We also had good diversity with the caddisflies and many low tolerance (to pollution/poor water quality taxa). 16 out of the 34 genera in the whole sample have tolerance values of 3 or less. This is on a scale of 0 to 10 with 0 being the most intolerant of pollution and 10 being highly tolerant.

In all, looking at this sample, I see absolutely no evidence of a pesticide issue in the basin. The taxa we collected would not be persisting if there was such a problem. In fact, the diversity and sensitivity of the overall sample is excellent and this is a stream that has passed through ag lands, and is below numerous road crossings, including one immediately above the sampling reach. Herb should be commended. I hope this helps and please feel free to contact me if you have any questions about the sample.